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*Eighteenth Report*

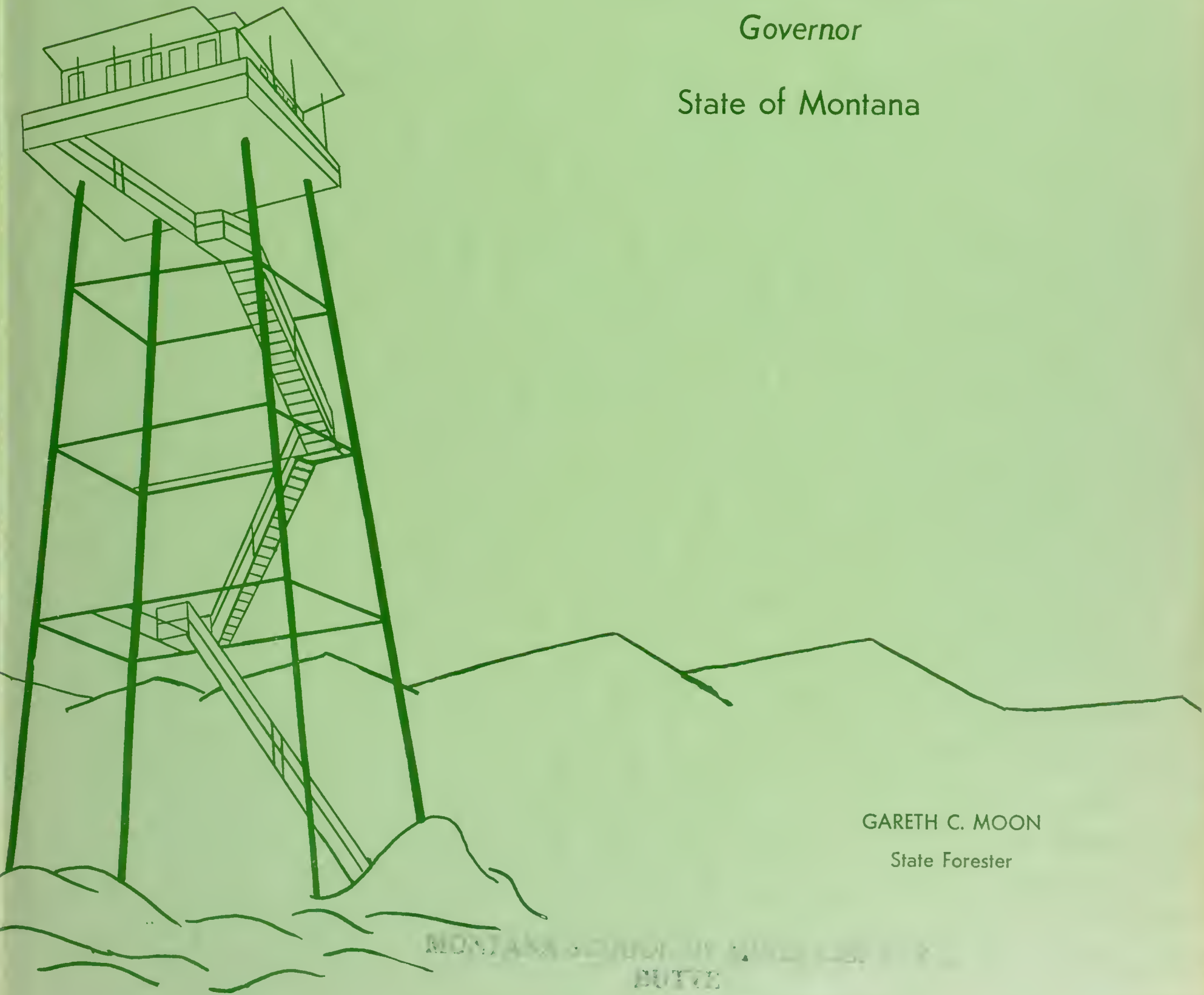
1961-1962

# OFFICE OF THE STATE FORESTER

To

*Honorable Tim Babcock*  
*Governor*

State of Montana



GARETH C. MOON  
State Forester

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Eighteenth Report

1961 - 1962

# OFFICE OF THE STATE FORESTER

To

Honorable Tim Babcock

Governor

State of Montana



GARETH C. MOON

State Forester

## Letter of Transmittal

September 1, 1962  
1209 Lolo Avenue  
Missoula, Montana

Honorable Tim Babcock  
Governor, State of Montana  
Helena, Montana

Dear Governor Babcock:

In accordance with the statutes of the State of Montana, there is transmitted herewith to you the Report of the Office of State Forester covering the fiscal years ending June 30, 1961, and June 30, 1962.

Respectfully submitted,

GARETH C. MOON,

State Forester

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*In Recognition . . .*



**ROSS A. WILLIAMS  
DEAN, MONTANA STATE UNIVERSITY  
SCHOOL OF FORESTRY**

For 13 years Ross Williams has been Dean of the Montana State University School of Forestry. During this time the School has made notable progress in diversification of curriculum, research, and facilities.

He became a member of the Montana State Board of Forestry in 1953 and has continued to lend his energies to the betterment of forestry in the State.

We wish to take this occasion of his retirement to thank him in behalf of all who are interested in forestry and conservation for his years of untiring effort in their behalf.

## Members of The Board of Land Commissioners

GOVERNOR DONALD G. NUTTER.....	Chairman
GOVERNOR TIM BABCOCK <sup>1</sup> .....	Chairman
HARRIET MILLER.....	Supt. of Public Instruction
FORREST H. ANDERSON.....	Attorney General
FRANK MURRAY.....	Secretary of State
LOU E. BRETZKE.....	Secretary and Commissioner of State Lands and Investments
MONS L. TEIGEN <sup>2</sup> .....	Secretary and Commissioner of State Lands and Investments

## Members of The State Board of Forestry

GOVERNOR DONALD G. NUTTER.....	Chairman, Helena
GOVERNOR TIM BABCOCK <sup>1</sup> .....	Chairman, Helena
D. P. FABRICK.....	Choteau
C. H. RAYMOND <sup>3</sup> .....	Hamilton
CHARLES L. TEBBE.....	Missoula
BOYD RASMUSSEN <sup>4</sup> .....	Missoula
MAKR SCHOKNECHT.....	Libby
SYLVAN J. PAULY.....	Deer Lodge
ROSS WILLIAMS.....	Missoula
HOLLIS YOUNG.....	Creston

1. Governor Babcock succeeded Governor Nutter in January 1962.  
 2. Mons L. Teigen succeeded Lou E. Bretzke in 1961.  
 3. C. H. Raymond succeeded D. P. Fabrick in 1961.  
 4. Boyd Rasmussen succeeded Charles L. Tebbe in 1961.

Inadvertently the name of GEORGE NEFF of Missoula was left off the list of Members of the State Board of Forestry. Mr. Neff has been a member of the Board for nine years.



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OFFICE OF  
THE STATE FORESTER

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## THE STATE FORESTER AND THE STATE BOARD OF LAND COMMISSIONERS

**The Office of State Forester was established by legislative action in 1909 when the need for technical help in managing forested state lands was felt by the Board of Land Commissioners.**

This Board, comprised of the Governor, Superintendent of Public Instruction, Secretary of State and the Attorney General has direct control of all lands granted to the State for the support of the various educational institutions. The objectives of the Board of Land Commissioners and the objectives of the State Forester as they pertain to the forested state lands are:

1) *To hold the lands in trust for the support of education and for the attainment of other worthy objectives helpful to the well being of the people of the State of Montana.*

2) *To administer this trust so as to secure the largest measure of legitimate and reasonable advantage to the State.*

3) *To accomplish a sustained income for the school and other trust funds.*

The State Forester is the chief administrative and executive officer, under the State Board of Land Commissioners, in all matters pertaining to the State Forests. By statute all state lands which are principally valued for the timber on them, for watershed protection, or for the growing of timber, are designated State Forests, and are reserved for forest production and watershed protection. These lands are not subject to sale.

The state forest lands consist of almost a half million acres generally on the scattered sections 16 and 36 in every township which

are, by grant, dedicated to school support. Some 212,000 acres of forested lands have been consolidated by exchanges into seven State Forest Units primarily to secure through closer administration a continuous supply of timber and a permanence of watershed cover.

These seven units are:

1. Stillwater State Forest, approximately 91,000 acres in the watershed of the Stillwater and Whitefish Rivers in Flathead and Lincoln Counties.

2. Swan River State Forest, approximately 39,000 acres in the Swan River watershed of Lake County.

3. Coal Creek State Forest, approximately 15,000 acres in the Coal Creek watershed of the North Fork of the Flathead River, Flathead County.

4. Sula State Forest, approximately 13,000 acres in the watershed of Camp and Cameron Creek of Ross Hole in Ravalli County.

5. Thompson River State Forest, approximately 23,000 acres in the Thompson River watershed of Sanders County.

6. Clearwater State Forest, approximately 24,000 acres in the Clearwater River watershed of Missoula County.

7. Lincoln State Forest, approximately 9,000 acres in the Blackfoot River watershed in Lewis and Clark County.

The State Forester is appointed by the Governor and confirmed by the State Senate. He uses factual and scientific information gathered by qualified technical help in making possible



Part of the 39,000 acre Swan River State Forest lying between the Swan and Mission mountain ranges as seen from the Woodward Peak Lookout Tower.

a program that will enable Montana's forest lands to continue production of wealth in the form of forest products, abundant usable water and matchless outdoor recreation areas.

In accordance with the provisions of the Enabling Act, necessary laws have been enacted by the State Legislature to guide the administration and distribution of income received from the management of the grant lands. The net rental income, such as from grazing fees, on the Public School grant lands, together with the interest earned on investments after statutory deduction, is distributed annually to the counties of the State on the basis of the number of school age children. Income from other grant lands is made available to the institutions to assist in defraying operational expenses.

## THE STATE FORESTER AND THE STATE BOARD OF FORESTRY

**The State Forester is responsible to the State Board of Forestry for programs which effect largely private forest lands.**

This Board, created by legislative action in 1939 is comprised of the Governor as ex-officio chairman and seven additional members who are appointed to represent the Water Conservation Board; Forest Protection Agencies; Stock and Wool Growers Associations; Lumber Manufacturers Association; The Grange, Farm Bureau, and Farmers Union; Montana University Forestry School; and the U.S. Forest Service. The State Forester serves as Secretary to the Board.

The objectives of the State Board of Forestry are in part:

*1) To protect and conserve the forest resources and watersheds of the state from destruction by fire and from destruction by insects and disease.*

*2) To enhance the production of the forested lands.*

*3) To promote the stability of the forest industry.*

*4) To give technical and practical assistance to private landowners of the state in respect to soil and forest conservation and the establishment and maintenance of woodlots and windbreaks.*

*5) To assist the State Board of Land Commissioners in the protection, economic development and use of State Forests and forest lands held by the State for the benefit of the common schools and State Institutions.*

The State Board of Forestry is required by law to hold at least two meetings each year. While the Board as a whole may meet only twice during the year, committees made up of

All monies received from the sale of timber is credited to a permanent fund for each of the land grant institutions. These permanent funds are held forever inviolate as the property of the fund. The monies are invested in United States Government Bonds, Bonds of the State of Montana, counties, cities, and school districts within the state. The interest received on these investments is distributed annually with the other income to the land grant institutions.

The Capital Building Grant is predominantly forest land. All money received from grazing, rentals, agriculture, sale of timber, oil royalties and interest are distributed as received for improvements to and construction of capital buildings.

its members pursue answers to forestry problems continually. Four major forestry problems have faced the Board and the State of Montana for a number of years.

A. The control of forest insects and disease.

B. Organized fire protection for the state and privately owned forest lands.

C. Reduction of the hazard created by logging and clearing operations.

D. The need for forest industries designed to utilize forest by-products now being wasted; and the need for local re-manufacturing of the end products of the forest industry.

It is difficult to imagine the devastation of the forests caused by insects and disease, particularly the still epidemic spruce budworm attack. The State Board of Forestry has established areas of infestation which require control measures and continue to press for adequate control programs.

Progress is being made toward state-wide forest fire protection. The Board approved a section of Lewis and Clark County during the biennium and work is progressing in other project areas.

The situation facing the State in the reduction and management of slash and brush hazards has improved greatly since the implementation of the laws enacted by the 36th Legislative Assembly. The Board of Forestry has approved a manual issued by the State Forester concerned with policies and operational procedures in carrying out the provisions of the law. Hazards created before the enactment of the law remain a diminishing problem.

**DISTRIBUTION OF INCOME FROM STATE FOREST LANDS**

Fiscal Year	Montana State College	Montana State College Morrill	Deaf and Blind	Industrial School	E. Mont. Normal School	School of Mines	University	Common School	W. Mont. Normal School	Total
<b>INCOME FUNDS*</b>										
1961	\$ 286.28	\$ 4,649.51	\$ 656.12	\$ 999.25	\$ 318.57	\$2,872.36	\$ 228.10	\$ 10,586.23	\$318.57	\$ 20,914.99
1962	296.70	5,969.87	1,005.11	1,092.41	379.10	3,673.43	243.46	12,498.80	**379.09	25,537.97
								**Normal School		
<b>PERMANENT FUNDS*</b>										
1961	3,175.83	4,421.20	13,452.02	97.00	1,538.86	1,305.75	1,254.40	250,313.46	—	275,558.52
1962	777.48	11,274.70	6,695.63	227.76	1,364.37	1,122.40	16.00	269,127.94	—	290,606.28
<b>CAPITOL BUILDING FUNDS*</b>										
1961										50,295.85
1962										31,259.18
										Total Fiscal Year 1961
										\$346,769.36
										Total Fiscal Year 1962
										347,403.43
										Total biennium
										\$694,172.79

\*INCOME FUNDS: 90% allocated to school and other state institutions; 10% of these funds credited to PERMANENT FUNDS.

\*PERMANENT FUNDS: Interest only on these funds expendable.

\*CAPITOL BUILDING FUNDS: 100% expendable upon deposit.





## THE STATE FORESTER'S OFFICE

### LOCATION

The headquarters of the Office of the State Forester is located in Missoula. During the biennium the operations were moved for the second time in three years—from the campus of Montana State University to a school building not currently in use. The move was necessitated by the destruction, by the University, of the building in which the office was housed.

The arrangements for the use of the school building were completed through the Missoula School Board, with a lease signed for two years occupancy with a two-year renewal clause for the consideration of one dollar a year.

### FIELD OPERATIONS

The field operations of the State Forester's program are divided between two districts. The Northwest District is headquartered in Kalispell. The Southwest District is headquartered in Missoula in the central office. The Southwest District actually covers all of Montana except the Northwest corner.

Under a District State Forester, each district has a staff of Timber Management assistants, Service Foresters, Scalers, fire control and hazard reduction personnel. The Northwest District also coordinates the work on the

Stillwater State Forest, located near Olney, and the Swan River State Forest, located south of Swan Lake. Each of these units has a resident Forest Supervisor and crews assigned to carry out the various forest management functions.

### ORGANIZATION

The reorganization begun in the previous biennium has been continued. All of the activities of the State Forester's Office are divided into three broad areas:

**OPERATIONS:** Headed now by a Deputy State Forester. This division includes fiscal control and purchasing, office routine, personnel management, and general business management.

**FOREST PROTECTION:** Headed by an Assistant State Forester whose responsibilities include protection programs against fire, insects, and disease, hazard reduction, and Civil Defense.

**FOREST MANAGEMENT:** Headed by an Assistant State Forester whose responsibilities include the programs of timber sales, special use, cooperative forest management, rights-of-way, timber stand improvement, consolidation and forest inventory.

## ROSTER OF ANNUAL EMPLOYEES

Gareth C. Moon, State Forester

Don M. Drummond, Deputy State Forester

Robert W. Arnold, Assistant State Forester

Richard Babcock, Timber Management Assistant

Gary G. Brown, Timber Management Assistant

Elsie Clark, Clerk-Stenographer

E. Thomas Collins, Fire Prevention Forester

Virginia Collins, Clerk-Typist

Joe Cone, Scaler

Maurice Cusick, Fire Warden

Sherman Finch, District State Forester

James F. Gragg, State Forest Supervisor

Robert Griffes, Assistant State Forester

Ruth Guinard, Clerk-Stenographer

William Guntermann, Fire District Planner

Jack Hamilton, Chief Scaler

Merle Hanson, Custodian

Otha Isaacs, Assistant State Forester (retired July 1962)

Richard Isaacs, Timber Management Assistant

Rodney Krout, Timber Management Assistant

Serena Lee, Cashier

Robert J. Lueck, Hazard Reduction Forester

Carl Managhan, Hazard Reduction Forester

Edgar McCulloch, Heavy Equipment Operator

Marvin McMichael, State Forest Supervisor

Lloyd Messner, Mechanic

Kenneth Nichols, Administrative Assistant

Paula Payne, Clerk-Stenographer

Philip Ruff, Chief Inventory Forester

Earl Salmonson, District State Forester

Richard Sandman, Fire District Planner

Vivian Sara, Clerk-Typist

Herman Schultz, Slash Inspector

Harry T. Vars, Fire District Planner

Robert H. Walkup, Service Forester

Virgil Weaver, Scaler

Marvyn Willis, Hazard Reduction Forester

Charles Wright, Service Forester



## OPERATIONS

**The operations division of the State Foresters Office is responsible for fiscal control, personnel management, training, safety, and general management of business affairs.**

The objectives of the operations division are in part:

*1) To maintain a high level of fiscal and statistical integrity within all programs of the department.*

*2) To supervise those programs of safety, communications and training which transcend functional lines.*

*3) To provide opportunities for personal advancement through formal and informal training, and to encourage and recognize individual achievement on and off the job.*

*4) To supervise and record the use of department owned facilities, equipment and vehicles.*

The permanent personnel in the Office numbers 38. Of these 18 are classified as Professional in that they are graduates in forestry or related fields. Ten men are classified as Technical, meaning they are involved in technical programs not demanding a graduate level of knowledge in a specific field. Three are classified as Service grade and eight are classified Clerical. The clerical staff consists of an Administrative Assistant, Cashier, and a secretarial pool of five. In addition, the Northwest District employs a Clerk-Stenographer. The organization is characterized as Line-Staff.

During the summer field season the organization expands rapidly to include hazard reduction crews, timber stand improvement crews, and seasonal fire personnel. An average July and August would see 135 people on the payroll. This is sometimes doubled or tripled in a severe fire season and may find all personnel committed to fire control activities.

### TRAINING

The training of personnel may be divided into two levels; formal, which includes actual training sessions; and informal which is constituted by on-the-job training. The formal training is dedicated to helping career people to better themselves and the state by keeping them abreast of current thinking and techniques in their field. Formal training extends into the field where crew foremen get training in Administrative matters as well as those things which directly affect their men on the job. Formal sessions are conducted by the department, and additionally, department personnel attend schools put on by other agencies.

On the job training is given every employee in the organization—permanent and seasonal.

During this biennium significant progress has been made in consolidating the gains made in training and reorganization. This has been through the completion and distribution of a series of manuals describing policy and programs of the Office of the State Forester.

### SAFETY

At the beginning of the biennium a close look was taken at the accident record of the organization. It was found that there were an alarming number of lost time accidents with both permanent and seasonal personnel. An invigorated safety program was instituted which included accident prevention and first aid training as a part of all training activities. The result has been gratifying in the reduction of lost time accidents due to injury and illness.

### FISCAL CONTROL

A number of difficulties manifested themselves in Fiscal Control this biennium due to limitation stipulated by the 37th Legislature. On the other hand some aspects were made considerably easier with the lumping of General Fund appropriations. The difficulties arose when expenditure limitations were placed on already dedicated funds. These difficulties have been resolved through the cooperation of all concerned. The Office of the State Forester is the collector and custodian of a great deal of trust monies which it cannot spend except as defined by statute. In most cases, the money is collected for fire associations or agencies, recognized and defined by law. These agencies and the Board of Forestry believe that the state has a legal and moral obligation to make these specific funds available to the agencies who have earned them as soon as they become available.

### VEHICLES, FACILITIES, AND EQUIPMENT

The organization and programs of the Office of the State Forester are built toward ACTION rather than custodial or extension. Men and crews are most often in the field working. They require equipment in tools,

vehicles and machinery to do their jobs whether it be fire suppression, timber management, or road building. It is often in this area where this department must make-do or curtail activities to fit the equipment on hand.

Of the 83 vehicles that are operated in this program less than half have been purchased by the State. The remainder are Military Excess and were obtained as a temporary expedient—many were old when received.

Although considerable advancement has been made in replacing equipment and facilities old and unsafe to use, much needs yet to be done.

The central office of the State Forester has moved again, the second time in three years. It is now located in a school building which was not being used for classrooms at the time. The restoration of the Clearwater housing facilities is contemplated for the biennium to provide better management and fire protection to the State and private forests.

#### RECOMMENDATION:

1. To grant the request for a modern permanent structure to house the central office of the State Forester.



The tanker shown is military excess equipment redesigned and remodeled by State Forestry personnel to fill in gaps in needed fire equipment. The trailer, built in the Stillwater State Forest shop, carries a military excess pumper unit. This unit refills tanker in less than 5 minutes from any available water supply. In the background are 2 buses, also military excess equipment, used to haul fire fighters or to serve as mobile lookouts.

**OFFICE OF STATE FORESTER  
STATEMENT OF BUDGET AND EXPENDITURES**

**Fiscal Year 1962 (July 1, 1961 - June 30, 1962)**

<u>Fund</u>	<u>Budget</u>	<u>Disbursed</u>	<u>Forward</u>
<b>Administration</b>			
583-2 Capital .....	\$ 19,208.00	\$ 6,724.27	\$12,483.73
583-3 Operation .....	226,088.00	206,916.78	19,171.22
<b>Protection — Assessments</b>			
310-1 Operation .....	4,052.00	3,610.96	441.04
310-2 Capital .....	2,735.00	2,725.00	10.00
310-3 Fire Protection Distribution.....	64,213.00	22,000.00	42,213.00*
*\$42,213 of F. Y. 1962 receipts could not be distributed until after 6-30-62, when books closed, and therefore will be shown as F. Y. 1963 expenditure. (Awaiting approval of legislature.)			
<b>Clarke-McNary</b>			
311-1 Fire Suppression .....	35,000.00	35,000.00	—
311-2 Fire Protection Distribution.....	82,800.00	82,800.00	—
<b>Brush Disposal on State Lands } Slash Disposal on Privately Owned Lands }</b>			
312-1 Operation .....	151,917.00	197,851.45	
Less	4,043.07**		
312-2 Capital .....	10,890.00		
Less	8,978.55**	1,911.45	
312-3 Refunds .....	35,000.00	46,418.43	
Less	116.00**		
**\$4,043.07, \$8,978.55, \$116.00 Liquidation of above amounts in compliance with the opinion of the Attorney General, dated 1-17-62.			
<b>Timber Stand Improvement</b>			
313-1 Operation .....	41,045.00	34,059.35	6,985.65
313-2 Equipment .....	3,726.00	—	3,726.00
<b>Cooperative Forest Management</b>			
314-1 Operation .....	17,417.00	13,123.63	4,293.37
314-2 Equipment .....	1,235.00	—	1,235.00
<b>COLLECTED BUT NOT DISBURSED (Awaiting Approval of Legislature)</b>			
<b>Clarke-McNary</b>			
311-1 Fire Suppression .....	\$ 7,812.73		
311-2 Fire Protection Distribution.....	18,486.27		
<b>Protection Assessment</b>			
310-1 Operation .....	\$ 675.73		
310-3 Fire Protection Distribution.....	20,396.34		

**STATE FORESTER'S COOPERATIVE WORK FUNDS**

<u>Fiscal Year</u>	<u>FORWARD</u>	<u>RECEIPTS</u>	<u>TOTAL AVAILABLE</u>	<u>EXPENDED</u>	<u>BALANCE FORWARD</u>
<b>Protection Assessment Fund 155</b>					
1961 .....	\$ 5,190.36	\$ 73,059.84	\$ 78,250.20	\$ 76,487.87	\$ 1,762.33
1962 .....	1,762.33	76,888.75	78,651.08	28,335.96	30,315.12
<b>Clarke-McNary Fund 104-19</b>					
1961 .....	\$ 5,921.12	\$117,899.88	\$123,821.00	\$123,100.96	\$ 720.04
1962 .....	720.04	144,752.12	145,472.16	117,800.00	27,672.16
<b>Cooperative Forest Management Fund 104-41</b>					
1961 .....	\$ 4,588.51	\$ 16,002.93	\$ 20,591.44	\$ 20,591.44	\$ —
1962 .....	—	16,008.25	16,008.25	13,123.63	2,884.62
<b>Soil Bank Fund 104-62</b>					
1961 .....	\$ 491.00	—	491.00	491.00	—
1962 .....	—	—	—	—	—
<b>Timber Stand Improvement Fund 100</b>					
1961 .....	\$ 43,922.28	21,069.73	\$ 64,992.01	\$ 43,593.57	\$ 21,398.44
1962 .....	21,398.44	34,614.92	56,013.36	34,059.35	21,954.01
<b>Brush Disposal Fund 156</b>					
1961 .....	\$ 32,208.28	51,310.70	\$ 83,518.98	\$ 38,107.88	\$ 45,411.10
1962 .....	45,411.10	58,736.26*			
*Includes reimbursement for fire damage at Stillwater Station .....		-3,186.84	100,960.52	48,024.27	52,936.25
<b>Slash Disposal Fund 156</b>					
1961 .....	\$300,117.14	\$273,145.30	\$573,262.44	\$292,893.88	\$280,368.56
1962 .....	280,368.56	196,558.01	476,926.57	198,157.06	278,769.51
<b>State's General Fund 101**</b>					
1961 .....		\$ 134.00			
1962 .....		98.00			

\*\*To State's General Fund when deposited.

**OFFICE OF STATE FORESTER**  
**STATEMENT OF APPROPRIATIONS AND EXPENDITURES**

**Fiscal Year 1961 (July 1, 1960 - June 30, 1961)**

	<u>Balance Forward</u>	<u>Appropriation</u>	<u>Disbursed</u>	<u>Forward</u>	<u>Revert to Gen. Fund</u>
<b>ADMINISTRATION</b>					
Salaries .....	\$ —	\$ 67,460.00	\$ 67,460.00	\$ —	\$ —
Operation .....	1,046.90	27,000.00	28,046.90	—	—
Capital Outlay .....	—	2,000.00	2,000.00	—	—
Repairs and Replacements...	140.29	600.00	740.29	—	—
PERS and Social Security...	—	7,000.00	7,000.00	—	—
<b>PROTECTION OF LANDS</b>					
Salaries .....	—	26,000.00	26,000.00	—	—
Operation .....	50.21	32,000.00	32,050.14	—	.07
Social Security .....	—	485.00	485.00	—	—
Capital Outlay .....	379.58	3,000.00	3,379.58	—	—
Repairs and Replacements...	93.76	2,000.00	2,093.76	—	—
Insect Control .....	1,797.86	—	1,107.37	690.49	—
{Invent. of Forest Resources {Supplemented by Counties..	2,086.83	12,000.00 72,743.46}	86,830.29	—	—
<b>TIMBER MANAGEMENT</b>					
Salaries .....	1,633.15	48,280.00	49,913.15	—	—
Operation .....	59.96	2,575.00	2,634.96	—	—
Social Security .....	—	1,100.00	1,100.00	—	—
Capital Outlay .....	3,000.00	1,000.00	4,000.00	—	—
Swan River Residence.....	11,128.40	—	11,128.40	—	—
Supplemented Approp. ....	—	32,013.67	32,013.67	—	—
<b>FORESTRY BOARD</b>					
PERS and Social Security...	—	70.00	70.00	—	—
Salaries .....	—	1,100.00	1,100.00	—	—
Operation .....	26.65	335.00	361.65	—	—
<b>RURAL FIREFIGHTER SERVICE</b>					
PERS and Social Security...	—	320.00	320.00	—	—
Salaries .....	—	5,280.00	5,280.00	—	—
Operations .....	126.35	2,200.00	2,326.35	—	—
Capital Outlay .....	100.00	100.00	200.00	—	—

**Fiscal Year 1962 (July 1, 1961 - June 30, 1962)**

<b>ADMINISTRATION</b>					
Operation .....	—	226,088.00	206,916.78	19,171.22	—
Capital .....	—	19,208.00	6,724.27	12,483.73	—



## FOREST PROTECTION



Fire is no respecter of ownership or location—it attacks private and public lands, grass and timber, wherever lightning or carelessness strikes.





## PROTECTING STATE FOREST LANDS FROM FIRE

**The State Forester is responsible for protecting state forest lands from destruction by fire.**

The objectives of the fire protection program are in part:

1) *To attain and maintain the highest possible preparedness, consistent with finances, manpower and facilities available, prior to and during the fire season each year, and to maintain a minimum necessary preparedness during the remainder of the year.*

2) *To confine going fires as quickly as possible, consistent with reasonable suppression costs, and to aim for control of each fire within the first burning period, ie by 10:00 A.M. the following calendar day.*

In most respects situations in forest management are predictable; not so in fire protection.

Given are a certain amount of forest acres, a certain amount of manpower and money, an average number of fires, a somewhat predictable hazard and risk picture. The unknown is the seasonal and daily severity of the fire danger as affected by the weather. The only recourse is plan, train, and be prepared for the worst probable fire situation in line with the objectives above.

Finances have an important bearing on both manpower and facilities and the achievement of fire protection objectives. Fire protection of state forest lands is paid out of general fund appropriations supplemented by federal assistance under the Clark-McNary Act. The costs involved in all facets of fire protection have risen, particularly the costs of actual suppression. The values of the forest and watersheds have also risen so that the actual damages are higher now than ever before even if the same acreage is burned. *The picture is one of increased costs to protect increased values.* Efficient hard-hitting fire control is expensive, but it pays off in savings in undamaged watersheds and healthy, growing timber.

The protection of State forest lands which are small or scattered is often assigned by contractual arrangement to other protection agencies whenever they are able to provide efficient and more economical coverage. The State forests that have been consolidated are protected by the State Foresters fire organization. In order to afford a higher degree of efficiency a fire plan developed in the previous



**This bus has been converted to use as living quarters and look-out providing satisfactory facilities pending the building of a tower.**

biennium is being used on the Northwest District. A state wide fire plan is being evolved presently and should go into effect in the next biennium. These plans provide a uniform and efficient method of using available manpower and equipment. They also outline plans for future development of facilities which will increase the capabilities of the organization to handle the growing fire job.

Many of the projects outlined originally have been curtailed as a result, directly or indirectly, of two severe fire seasons in a row. The two fire towers which were scheduled to be built have not been. Rather, through the use of Military Excess, mobil towers have been built from buses and these have been moved to areas where needed. The completion of a road to the Napa Lookout in the Swan River State Forest will provide an opportunity to replace the decrepit wooden tower there with a mobil lookout; the old Woodward Lookout in the Swan will give way to a new one which will be completed on the same site.

It is planned to remodel the State cabin at Sperry Grade to make it livable and move a man and fire equipment there to provide better coverage for the State Forests. This cache of fire equipment, including hand tools and tank-

ers, will speed up the protection available to problem areas east of the Continental Divide. Making the proposed Clearwater Station (Sperry Grade) livable will necessitate drilling a deep well, some repair to the residence and remodeling of storage and shop facilities.

Fire communications have been vastly improved in this biennium as progress is made on the 10 year radio plan submitted to the 37th Legislature. It is now possible to consistently reach all State Forest Stations from Kalispell and the Missoula Office. Plans are to continue tightening up the radio net as outlined in the long range plan.

The State Forester, through government surplus programs, has acquired approximately \$460,000 (federal acquisition cost) worth of supplies and vehicles for fire control purposes. Much of this surplus, particularly vehicles, after redesigning and remodeling, have provided effective make-shift fire suppression equipment. While this gear was a great expedient in fulfilling fire control needs at one time, it is coming to the place where the ingenuity of department personnel is no match for the increased equipment needs nor the in-

creasing difficulty in obtaining parts for repairs and maintenance.

Military excess programs have slacked off in this biennium making replacements difficult to come by. Much of the equipment now in use has a predicted service life of a few more years, but then there is little chance that it can be repaired or replaced from surplus sources. It must be acknowledged that this equipment will have to be replaced in the not too distant future with commercial fire fighting gear.

#### **RECOMMENDATIONS:**

**1) Provide for the improvement of the residence and facilities at the Clearwater State Forest.**

**2) Continue the purchase of radio equipment needed to carry out the departmental radio plan to conform to Federal Communications regulations.**

**3) Appropriation of sufficient state funds to carry out the objectives of fire protection on state and privately owned forest lands and particularly to meet fire suppression costs.**

## **FIRE PREVENTION**

**The fire prevention program of the State Forester covers all state and privately owned forest lands.**

The objectives are:

*To, through effective fire prevention programs, prevent as many fires as possible by treating risk and reducing hazard—consistent with a balanced over-all protection program.*

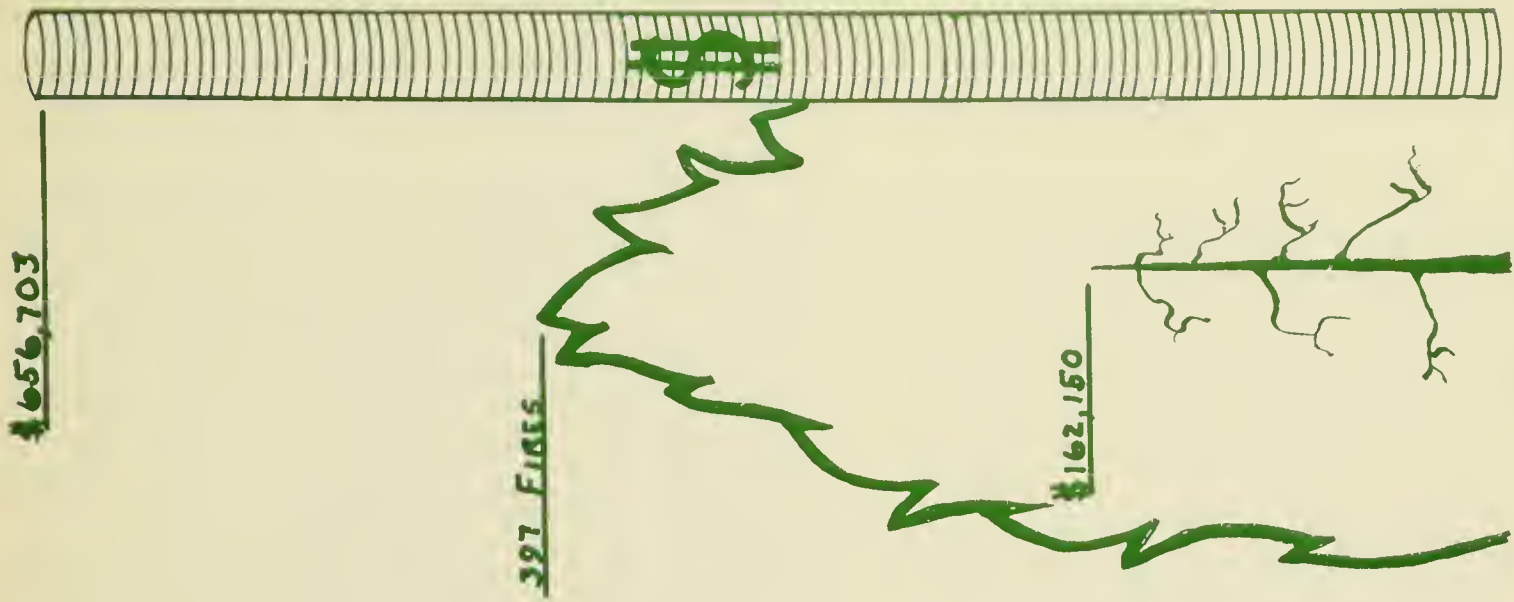
It is a cooperative program including federal, state, and private agencies and individuals, aimed at preventing careless, man-caused fires on the timber and range lands of the state. Better record keeping on the causes of man-caused fires has facilitated the determination of specifics in respect to who is causing fires, where, and when, as well as determining risk and hazard. "Risk" is the presence of causitive agents, while "hazard" is the on-the-ground dangers of fuels.

In order to better accomplish the objectives of reducing man-caused fires an outline for the determination of factors of risk and hazard has been drawn up. This outline also seeks to determine the effectiveness of present prevention efforts and the need for further effort. The

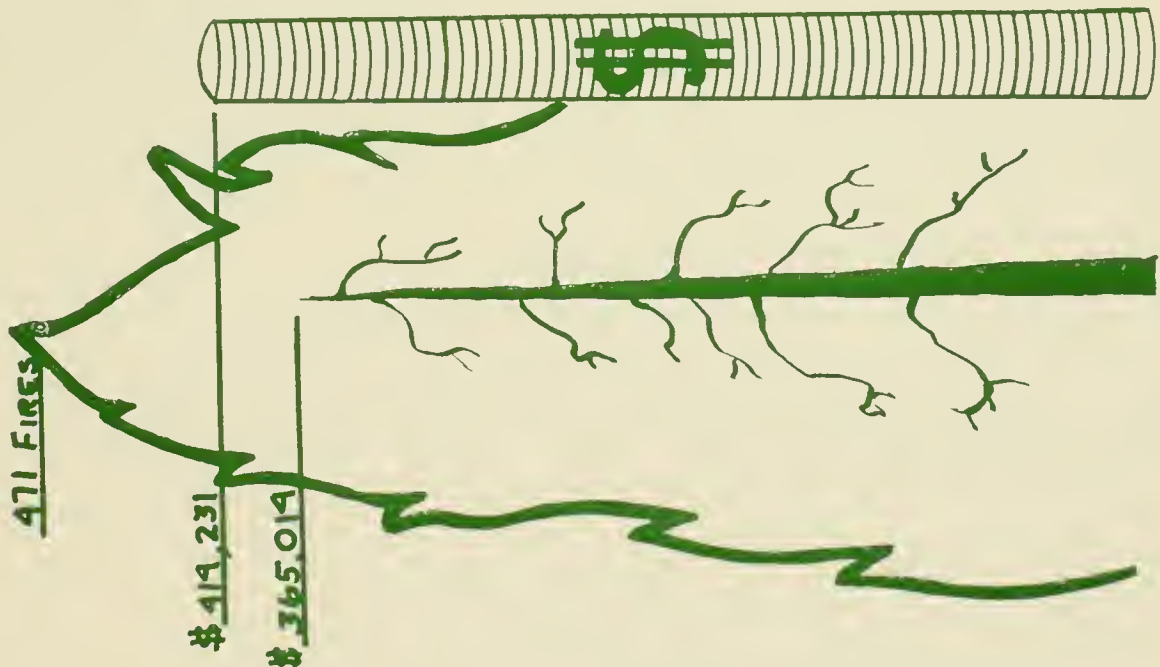
conclusions that are drawn from this outline will be used to evolve a state-wide fire prevention manual.

Fire prevention planning is built around 3 Es. These are Education—the advertising and information approach; Enforcement—of state fire prevention laws and regulations; and Engineering—including hazard reduction, camp site planning, and perhaps fire proofing in the future.

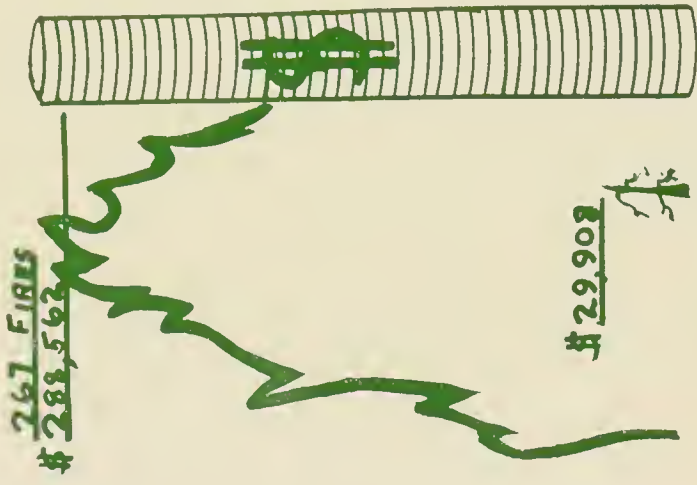
The Educational phase of fire prevention in Montana is carried on through two general programs. The Cooperative Forest Fire Prevention Program, better known as the Smokey Bear program, has been, since 1945, the chief advertising medium for fire prevention. Smokey is called upon to provide an aura of forest fire prevention throughout the state. The second medium is the reorganized Keep Montana Green program. This is a cooperative undertaking between federal, state and private enterprises. In Montana it is financed chiefly through private subscription from many facts of the economy. The State Forester supplies a Coordinator and the Federal agencies cooperate in supplying equipment and supplies.



**1961 FIRE SEASON**



**1960 FIRE SEASON**



**1950-1959 AVERAGE**

This graph visualizes the severity of the 1960 and 1961 fire seasons compared with the ten year average in terms of number of fires, represented by the flames; damage caused, represented by the burned tree; and the expense involved in protection and suppression activities, represented by the stacks of coins. This expense includes state, federal, and private contributions to the protection of state and private forest lands.

## PROTECTING PRIVATELY OWNED FOREST LANDS FROM FIRE

One of the responsibilities of the State Board of Forestry is to provide fire protection to the six million acres of privately owned forest lands in Montana. This protection is provided through the Office of the State Forester.

At the present time large sections of privately owned forest land east of Continental Divide are not receiving adequate forest fire protection. The objectives of the program are:

*To provide, as rapidly as possible, adequate forest fire protection to all state and privately owned forest and related watershed land within the state.*

Under the impetus of Legislation passed in 1959 progress is now being realized toward this objective.

The definition of forest land for fire protection purposes is now based on flammability of cover rather than on the merchantability.

Forest lands are placed into one of two classifications—Class I, primarily timber or Class II, primarily grazing, which are intermingled with or contiguous to forests. Separate assessment rates are applied to each class, based on the cost of protection within the area for the type of land. A ceiling has been placed by law on the cost per acre that can be assessed the owner. For Class I lands it is a maximum of 10¢ per acre, and on Class II lands a maximum of 3¢ per acre.

In addition to the cost per acre that the owner may be asked to pay, private land protection is financed through the provisions of the Clark-McNary Act, and by appropriations from the State.

The following are the steps to be taken in establishing new forest protection districts under the law of 1959.

A. Establish proposed boundaries of forest protection district.

B. Classify land within the proposed district.

C. Creation of the District by the Board of Forestry. (The State Forester will hold public hearings before establishing each protection district.)

D. Determination of what agency will provide the protection. The present recognized agencies to give adequate fire protection are the fire protection associations: The Blackfoot



Here state crews and state equipment fight a stubborn fire on forest land within a protection district.

Forest Protective Association, The Northern Montana Forestry Association, The Anaconda Forest Protective Service, The U. S. Indian Service (Dixon), The Office of the State Forester, and the U. S. Forest Service.

E. Prepare a fire plan for the district.

F. Submit the plans for Forestry Board approval.

G. Request the Legislature to appropriate the State's share of the money called for in the plan.

H. After the appropriation is made and the protection provided, the Board of Forestry causes the assessments to be made.

Following this outline the Office of the State Forester has prepared the Continental Divide Block of the Helena National Forest in Lewis and Clark County. Other new districts have been assigned priorities for completion and work is being continued to reach the objectives.

### RECOMMENDATIONS:

**The State of Montana should assist in the financing of adequate forest fire protection to privately owned forest lands.**

**AREA PROTECTED, NUMBER OF FIRES, AND AREA BURNED—COMMERCIAL FOREST LANDS  
OF MONTANA BY PROTECTION GROUPS**

Ten Year Period, 1952 - 1961

Year	Protection Group	Area Protected M Acres	No. of Fires	No. of Fires Per Million Acres	Area Burned Acres	Area Burned Per Million Acres	Percent Protected Area Burned
1952	State CM2	6,000	289	48	1,665	278	0.03
	Federal	19,129	392	21	3,342	175	0.02
	Total	25,129	681	27	5,007	199	0.02
1953	State CM2	6,000	347	58	796	133	0.01
	Federal	19,155	862	45	7,144	373	0.04
	Total	25,155	1,209	48	7,940	316	0.03
1954	State CM2	6,000	265	44	403	67	0.007
	Federal	21,098	385	18	1,227	58	0.006
	Total	27,098	650	24	1,630	60	0.006
1955	State CM2	6,000	240	40	346	57	.006
	Federal	21,189	346	16	5,746	274	.02
	Total	27,189	586	22	6,092	226	.02
1956	State CM2	6,000	268	45	1,103	184	.03
	Federal	21,214	619	29	6,523	308	.02
	Total	27,214	887	33	7,626	280	.03
1957	State CM2	6,915	321	46	1,381	200	.02
	Federal	21,040	524	25	2,726	130	.01
	Total	27,955	845	30	4,107	145	.01
1958	State CM2	6,915	253	38	1,358	196	.02
	Federal	20,994	673	32	6,485	308	.03
	Total	27,909	926	33	7,843	281	.03
1959	State CM2	6,915	261	38	11,167	1,614	.16
	Federal	19,107	305	16	3,796	198	.02
	Total	26,002	566	22	14,963	575	.06
1960	State CM2	6,915	471	68	13,562	1,965	.19
	Federal	19,344	936	48	24,033	1,264	.13
	Total	26,259	1,407	54	37,595	1,446	.14
1961	State CM2	6,915	397	57	10,976	1,590	.16
	Federal	18,951	1,054	56	38,129	2,006	.20
	Total	25,866	1,451	56	49,105	1,888	.19

\*State CM2 includes state and private forest fire protection agencies.

# HAZARD REDUCTION

The reduction of fire hazards created by residue left from logging and clearing operations is required by statute. The program is divided for accounting purposes into "brush disposal" (state lands), and "slash disposal" (privately owned forest lands).

The objectives of the program are:

1) *To provide, as economically as possible in keeping with modern progressive forest practices and effective fire control, hazard reduction and management to the extent necessary to provide a measure of safety to the residual and future timber stands and to the property of others from fire hazards created by cutting of forest products.*

2) *To manage slash hazards with the entire forest management picture in mind.*

3) *To establish more effective fire control through the medium of contractual relationships between the State Forester and the operator engaged in logging operations on private forest lands within the state.*



Logging slash like this, if left un cared for, creates a fire hazard and presents a problem in fire protection.

## PRIVATE FOREST LAND

The Hazard Reduction or Management Law passed by the 1959 Legislature has been responsible for greatly easing the potential of fire on private forest lands due to accumulations of cutting debris. This law approached the problem realistically by increasing the rates, correcting inadequate reporting procedure and placing the responsibility on the operator. Before the operations start in the woods a written agreement is reached between the operator and the State Forester. The operator selects one of a number of options in respect to who will reduce the hazard. These options include the choice as to whether the operator will take care of the hazard reduction or whether he wishes state crews to do it when he has completed the logging. In the event that the operator chooses to do the work himself, he deposits a bond, completes the work which is then inspected by a State Hazard Reduction Forester. If the job has been satisfactorily completed, the money, that the operator has posted for Hazard Reduction, is refunded. If the operator asks the state to handle the hazard reduction work, crews are sent out and are paid out of the money that has been posted by the operator.

Since the passing of the new law approximately 2,560 Hazard Reduction agreements have been made.

## STATE FOREST LANDS

Policies governing the hazard reduction program on state lands are formulated by the State Board of Land Commissioners on recommendation of the State Forester. The present policy requires purchasers of State owned timber to pay \$1.50 per thousand board feet harvested for the reduction of the hazard created in the removal of the timber.

The amount paid in by operators logging state land varies according to the number and size of the sales. The money is used only for the reduction, disposal or protection of fire hazard created in the operations.

The nature of hazard reduction work done is dictated by the location and situation on the area.

Hazard reduction work done on the consolidated holdings within a state forest are tied to the management plan. On these areas the hazard reduction plan is incorporated in the timber sale plan. Hazard reduction work on state lands is generally carried out by state employed crews.

## FOREST PEST CONTROL

**The State Forester is responsible for forest pest control on the state and private forest lands. The objectives are those of the Board of Forestry in respect to forest protection and:**

*To independently and through cooperation with the federal government and private land owners adopt and carry out measures to control, suppress and eradicate outbreaks of forest insect and tree diseases.*

Every year insects and disease, quietly and over huge areas, destroy more timber than is lost by fire. Occasionally, the damage is done before it is detected. During recent years damage of major proportions has been caused in Montana by spruce bud worm, spruce bark beetle, and dwarf mistletoe.

The spruce bark beetle epidemic has been responsible for killing over a billion board feet of timber in the State. The only economical method of control is to harvest the timber while the larvae of the beetle are under the bark. In the past the cooperative efforts of industry, state and federal agencies in gigantic programs to harvest infested spruce timber has decreased the severity of the bark beetle infestation.

The spruce budworm continues to be epidemic. In April 1955 the State Board of Forestry recognized the need for control measures on some 5 million acres of timber lands. At that time three zones of infestation were recognized, roughly a western zone, central zone and eastern. An estimated 40% of the timber affected is in private ownership.

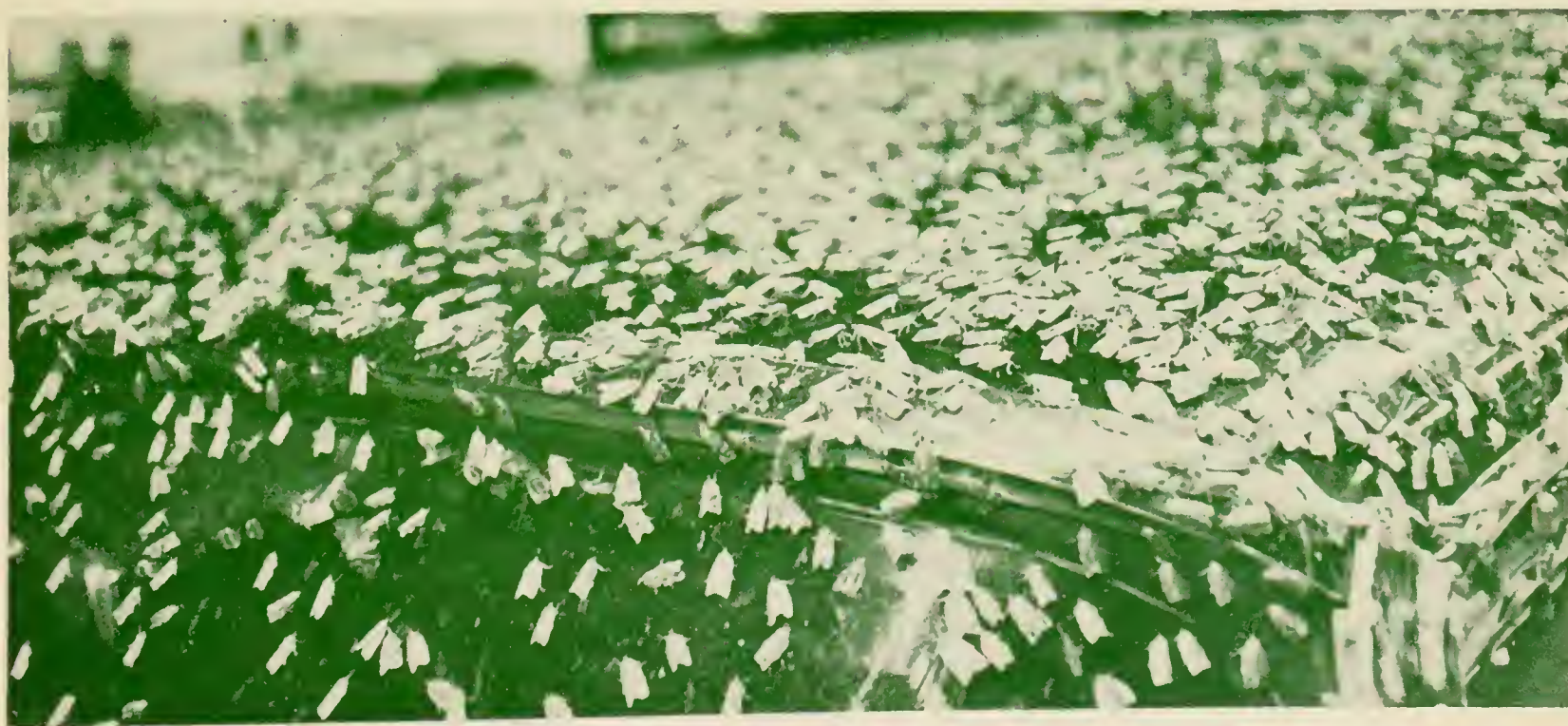
In the years since, aerial spray programs have been instituted in an effort to control the epidemic. The federal government finances all the cost of spraying the federal lands involved, and in addition, pays half of the cost of spraying state and private lands.

In order to be effective, all timber that is infected must be sprayed regardless of who owns it. This has presented a major problem in control. With the intermingled ownership of timbered lands characteristic in the state, it is often necessary to spray a combination of private, federal, and state timber land in one project. Cooperation in control projects is the option of the landowner. Some owners willingly cooperate, while others refuse for a variety of reasons, among which are financial inability and low commercial value of his timber stand. This situation has led to confining of the spray projects as closely as possible to the limits of federal and state boundaries. This in turn appears to preclude the hope of ever stemming the epidemic completely.

One solution, that of mandatory action by the landowner has not been favorably received by the State Legislature. A second solution, the appropriation of State funds to be used on private lands, seems to be most favorable to landowners. The Board of Forestry recommended this to Legislature in 1959; however, no funds were made available.

### RECOMMENDATION:

1. Provide for State participation in payment of control costs on private lands.



This picture was taken when the spruce bud worm moths were attracted to the city lights in Missoula. Their volume portends further destruction to the forests next spring.





## FOREST MANAGEMENT



The picture above was taken in 1938 of a 1926 burn. The picture below of the same area was taken this year. The area is on one of the State Forests and shows that it takes time and good management to realize the potential worth of State Forest lands.





## FOREST MANAGEMENT PROGRAMS

**This organizational division is responsible for the programs affecting the land use and timber management of state forest land.**

The objectives are in part:

1) *To conduct a program on State forest lands which will provide maximum income to the several state school funds on a sustained basis.*

2) *To provide for multiple use of State forest lands to include sale of forest products, recreation, watershed protection, grazing and other uses in the best interest of the people of the State.*

3) *To manage state forest land in such manner as to conserve water, soil, and young stands of timber.*

## TIMBER MANAGEMENT

**This function has to do with the management of the timber on the state forests in terms of the following objectives:**

1) *To remove annually the current growth plus mortality in such manner that the residual stands will remain in a thrifty, productive, or reproducing condition.*

2) *To employ cutting practices which will remove mature and overmature timber on a silviculturally sound basis and provide for regeneration.*

3) *To improve the productivity and composition of young stands of timber.*

4) *To reforest non-stocked forest lands.*

5) *To salvage all fire-killed, blowdown and insect damaged timber as loss occurs.*

6) *To promote the expansion of forest industries within the state by raising the productivity of the state forest land.*

Timber sale administration is achieving these objectives. The greatest amount of income accrued to the several state school funds from State forest lands is through sale of timber. Achieving a balance providing maximum income currently and for a sustained income for the future demands intelligently conceived management.

At the present time, and pending the completion of the forest inventory, the State Forester has established as an allowable annual cut from state lands approximately 25 million board feet. This annual allowable cut provides for the removal of anticipated bug kill, fire kill, blowdown and a planned amount of mature and overmature timber. This biennium has seen the harvesting on state lands of over 62 million board feet of green timber and an additional 2½ million board feet of dead timber. The difference between this actual removal and the established allowable cut reflects a number of factors. One of these is the increase in the last two years of bug and fire kill. Another is the matter of a slow lumber market that saw the extension of sales from previous years.

A timber sale contract outlines the method

of cutting which has been determined will best suit the sale area in respect to future use of the site. These methods depend on the species, size and age of the stand, degree of stocking and incidence of disease or insects. The cutting method may be characterized as light in selective cutting, to heavy in clear cutting.

A sustained yield plan must include provisions for the restocking and replanting of non-producing lands as well as the improvement of immature timber stands. The contract also provides for erosion control and minimum damage to young stock. During this biennium direct seeding was done on 730 acres, mostly burned over land. The seeds for this operation were obtained through cone gathering by state



Under some circumstances the best time to seed is in the snow. This state land was seeded last winter and a good germination was noted last spring.

crews to obtain stock that was suitable for the areas planted. The seeding was done by hand and by helicopter. An additional 60 acres was restocked by planting of seedlings, and 1,227 acres were prepared for seed bed.

Much of the timber stand improvement being carried out on state forest lands consists of thinning immature stands of commercially important species.

Under the provisions of Title 4 of the Soil Bank Act, the reforestation of state forest lands received federal financial aid. This plan saw 16 thousand dollars granted to the state for use in tree planting, seeding and seed bed preparation.

The sale of Christmas trees from state forest lands has diminished somewhat in this biennium with prospects for a further decrease. This is partially due to insect damage and competition from eastern and Canadian sources. A plan of awarding long term Christmas tree sales that has the advantages of improvement work done by the lessee is being investigated. Results should be evident within the coming biennium.

Roads are extremely important in the management of forest lands. Not only are they needed for access for management and sales, but for protection. Timber sales are planned with road construction requirements a condition of sale. While needed road development

is being achieved slowly, the desirability of a stepped-up road construction program is felt.

Scaling rules used on state timber sales are dictated by statute. A Chief Scaler trains and supervises the work of the state's timber scalers and determines that standards are maintained.

Scaling has become difficult, due to modern methods of logging, time consuming, and often entailing a great deal of travel. The statutes require that scaling be done by the Scribner Decimal C scale and infer that every saw log must be scaled. It is felt that possibly a point of diminishing returns will soon be reached under this statute. The money spent in this technical scaling system could be more than the allowable margin of error in scaling. Another more efficient system might be used, and the state's best interests still safeguarded. Studies have been done in respect to the accuracy of weigh scale and it appears that this could be one satisfactory method of substitution.

#### RECOMMENDATION:

**That the present timber scaling statute (Section 81-1408, Revised Codes of Montana, 1947) be amended to permit the State Forester to use conversion factors in scaling sawlogs when deemed appropriate.**

#### CHRISTMAS TREES CUT BY COUNTIES — FISCAL YEAR 1961

County	No. of Permits	No. of Bales	Unit Average Price	Stumpage
Lake	24	1,654 13/24	\$.71	\$ 1,172.61
Missoula	18	2,318 2/24	.57	1,471.38
Ravalli	11	484 2/24	.54	343.87
Sanders	33	3,934 14/24	.66	3,045.47
Flathead	85	12,647 10/24	.79	10,045.02
Lincoln	37	7,271 9/24	.82	5,943.98
TOTALS	208	28,310 2/24		\$22,022.33

Boughts 17.95 tons @ \$5.00/ton \$91.05

#### CHRISTMAS TREES CUT BY COUNTIES — FISCAL YEAR 1962

County	No. of Permits	No. of Bales	Unit Average Price	Stumpage
Flathead	94	11,552	\$.72	\$ 8,273.17
Lincoln	32	4,474 10/24	.73	3,265.96
Lake	19	1,854 14/24	.94	1,746.85
Mineral	1	57 12/24	1.05	60.55
Missoula	20	1,370 6/24	.72	990.07
Ravalli	7	225 1/24	.86	194.33
Sanders	21	1,623 21/24	.77	1,249.52
Powell	2	315	.54	170.00
TOTALS	196	21,472 16/24		\$15,950.45

Total boughs cut —

Flathead County 12.250 tons \$ 78.40  
 Missoula County 2.396 tons 25.25

\$103.65

**SAWTIMBER CUT FROM STATE FOREST LANDS  
FISCAL YEAR 1961**

County	White Pine	Ponderosa Pine	Larch	Douglas Fir	Spruce	Lodgepole Pine	Cedar	White Fir	Total Green	Total Dead
Lake	869,280	133,790	2,773,290	1,297,025	677,030	71,160	351,970	277,200	6,450,745	337,270
Flathead	1,555,200	15,230	4,641,275	1,760,540	1,576,450	450,050	38,360	702,840	10,748,305**	695,740
Granite	-----	580	-----	2,368,270	22,910	18,690	-----	3,650	2,414,100	1,610
Missoula	-----	163,890	24,100	126,450	040	-----	-----	-----	314,480	3,070
Powell	-----	24,660	-----	1,882,770	57,710	51,200	-----	9,840	2,026,180	6,890
Sanders	2,450	32,130	31,860	207,832	-----	5,030	2,390	170,930	452,622	3,660
Lincoln	1,530	476,460	3,888,200	1,570,880	28,780	114,260	760	18,260	6,099,130	320,670
Ravalli	-----	349,010	-----	2,007,420	17,390	9,300	-----	16,960	2,400,080	25,420
Mineral	-----	14,030	2,440	3,580	070	860	-----	-----	20,980	-----
Park	-----	-----	-----	102,850	16,410	-----	-----	-----	119,260	-----
Lewis & Clark	-----	1,290,739	-----	369,908	1,900	247,070	-----	-----	1,909,617	5,230
Gallatin	-----	-----	-----	200,000	-----	-----	-----	-----	200,000	-----
Totals	2,428,460	2,500,519	11,361,165	11,897,525	2,398,690	967,620	393,480	1,199,680	33,155,499	1,399,560

\*\*Includes 8,300 bd. ft. Cottonwood.

Total Green and Dead—34,555,059 bd. ft.

**SAWTIMBER CUT FROM STATE FOREST LANDS  
FISCAL YEAR 1962**

County	White Pine	Ponderosa Pine	Larch	Douglas Fir	Spruce	Lodgepole Pine	Cedar	White Fir	Total Green	Total Dead
Lake	813,020	272,440	5,247,554	3,076,190	1,058,140	143,240	327,320	471,770	11,409,674	381,790
Flathead	194,470	15,910	1,744,470	1,044,650	909,390	91,000	162,200	173,450	4,335,790*	408,090
Ravalli	-----	184,490	-----	1,499,010	360	-----	-----	2,550	1,686,410	29,670
Lincoln	21,190	623,210	1,424,400	675,200	45,770	251,680	080	62,500	3,104,030	92,070
Mineral	-----	7,200	1,580	2,170	-----	-----	-----	-----	10,950	-----
Big Horn	-----	-----	-----	-----	-----	-----	-----	-----	-----	100,000
Missoula	-----	121,970	241,080	1,536,650	-----	2,710	-----	-----	1,902,410	24,220
Sanders	-----	93,930	46,200	545,510	-----	510	-----	51,660	737,810	030
Gallatin	-----	-----	-----	229,760	-----	-----	-----	-----	229,760	-----
Lewis & Clark	-----	1,147,650	-----	407,620	5,680	110,360	-----	-----	1,671,310	11,560
Powell	-----	380	350	2,710,470	100,570	274,630	-----	5,260	3,091,660	6,840
Granite	-----	-----	-----	872,160	1,580	16,750	-----	5,610	896,100	1,180
Totals	1,028,680	2,467,180	8,705,634	12,599,390	2,121,490	890,880	489,600	772,800	29,075,904	1,055,450

\*Includes 250 bd. ft. White Bark Pine.

Total Green and Dead—30,131,354 bd. ft.

## STATE FOREST INVENTORY

Nearing completion is the first round inventory of state forest lands. When completed this appraisal will be the foundation for a long range management plan which will put all State forest lands on a sustained yield program.

The objectives of the program are:

*To secure and keep up to date data concerned with the location, condition, quantity and availability of timber products on state forest lands.*

In order to accomplish this program a schedule and work outline was set up a number of years ago. This included the phases of the inventory which are field checking, mapping, area calculation and a final calculation of all data. The work schedule had to be revised with the advent of the private land reclassification project as much of the personnel and equipment needed in the inventory was also re-

quired for reclassification of private forest lands.

It was found that much of the inventory of scattered state lands could be done with the reclassification of private lands, and this phase of the inventory has moved along well. At present the inventory of scattered state forest lands has been completed through the field checking phase and are 75 per cent complete in the mapping stage.

At the same time the work on the consolidated lands has progressed to 90 per cent completion of the field checking phase with work on the other phases in varied stages of accomplishment. When this first round inventory has been completed it will provide data that has never before been compiled. At the same time this data will be constantly changing and will need to be kept current.

## PRIVATE FOREST LAND RECLASSIFICATION

In response to Legislation passed in 1957 requiring all counties to reclassify private lands the State Forester set up a forest land reclassification project.

The objectives of this project were:

*1) To provide the Board of Equalization with a manual defining uniform procedures and specifications for the Area Determination Phase of reclassification.*

*2) To provide technical assistance to counties that requested it.*

At the time this project was instituted, the State Forester was involved in an inventory of state forest lands using similar equipment and techniques that would be needed for the proposed reclassification. The manual that was requested by the Board of Equalization was written from the experience that had been gained in the inventory program. The manual was concerned with the Area Determination phase which considered the timber stand in an area in terms of specie composition, the size of the trees, and the degree of stocking. Also considered is the topography on which the stand is located and its accessibility to roads and manufacturing points. As these are among the primary factors on which the value of timber

could be determined, it was felt that with this information an equalized valuation could be made.

Four steps are involved: 1) Forest land area delineation and classification; 2) Field checking area delineation work; 3) Transcribing data to base maps; 4) Area calculation.

At the same time three levels of technical assistance were offered to the counties.

The State Forester would: 1) Do all technical phases of classification; or 2) Would do the technical field work only; or 3) Would train and advise reclassification personnel employed by the counties. The counties are responsible for the financing of services rendered.

The assistance that the counties have requested varies greatly. Twelve counties have requested the State Forester to do all of the Area Determination. Another 9 counties requested technical assistance only, while three requested only schools for their own reclassification personnel. Requests that the field work be done by the State Forester came from 21 counties.

It had been planned originally that the reclassification project would be completed in this biennium, but the late requests for assistance by some counties have meant a delay in the deadline.

## CONSOLIDATION OF STATE FOREST LANDS

**There are problems in forest management and protection that are made more difficult by the scattered nature of the state forest land holdings. Work toward the consolidation of these holdings is a continued effort of the State Forester's Office.**

The objective of the program is:

*To negotiate, after appraisal and investigation, the exchange of private and federal forest lands for the scattered state lands in order to consolidate the state's forest holdings into units which can be managed in the best interests of the state.*

A consolidation program of this nature is recognized to be a project that will take many years to bring to fruition. Involved basically are land and timber values and the fact that the owners involved do not have uniform methods of making appraisals and reaching valuations. Additionally, the very acts of making on the ground appraisals are extremely time consuming.

Making an equitable exchange is made difficult by the need, inherent in statutes, for the state to realize an advantage in the trading of

lands. The land that is offered for exchange has most often already been logged, while the state land that is desired usually has not. This is where the systems of valuation leaves a gap between what is desired by the state and what is desired by the person or agencies requesting the exchange.

The exchange of State land for private land would, in some cases, involve the transfer of tax land from one county to another and the transfer of tax free land the other way. This could mean that a county or school district could lose taxable private land. This loss would be offset with the acquisition of State land in the county or school district which provides revenue for the support of all schools in the State.

### RECOMMENDATIONS:

- 1) **To support the program of state forest land consolidation and strive for its accomplishment as soon as possible.**
- 2) **To develop a system of land valuation and appraisal in order to expedite the land exchange program.**



Using a multiscope this forester works on the mapping phase of reclassification on private lands.

## COOPERATIVE FOREST MANAGEMENT

Personnel from the State Foresters Office offer technical assistance to private woodland owners through the programs of Cooperative Forest Management.

The objectives are pointed toward increasing the present and future timber production from private forest lands. The objectives are:

1) *To interest the landowner in forest management and convince him that management is a paying proposition.*

2) *To provide a plan for the orderly development and harvest of the timber stand.*

3) *Maintain and increase productivity.*

4) *Restock non-producing forest land.*

A large percentage of the technical assistance given private forest landowners involves stands from which the merchantable timber has been removed earlier. The effort is toward making these stands again profitable and reproducing a crop. The work of the Service Foresters is primarily concerned with the prevention of premature cutting in these private stands, providing for natural regeneration through approved cutting practices, and assisting the landowner in getting full market value for his timber when he does sell it.

The cost-sharing Cooperative Forest Management program is now in its eighth year. Three men called Service Foresters carry out the program within the state. Under the program a private land owner requests assistance from the State Forester in setting up a management plan for his timber land. A Service Forester goes to the man's property and with him they recommend and suggest ways in which his wood lot can be put on a paying basis. The Service Forester may recommend cutting practices, logging methods, ways of selling timber and suggestions on timber sale contracts. Logging methods are recommended which will prevent soil erosion, provide for natural regeneration and cause least damage to the residual stands. All of the recommendations of the Service Forester are written up in the form of a working plan and presented to the landowner. Forest publications and informational guides are supplied to aid the landowner in following the plan.

During this biennium the State Forester's Office has published a **Forest Management Guide** to fill a long felt need for a clear, concise and easily understood handbook to use with private cooperators.

During the biennium the three Service Foresters serving the entire state listed the following accomplishments:

Woodland owners assisted.....	406
Acreage of Woodland Owners Assisted....	47,875
Timber marked for cutting.....	641 MBF
Timber Stand Improvement-Acres.....	946
(Thinning and Pruning)	
Land Planted of Seeded-Acres.....	126
Acreage of land in Management Plans ...	6,958

### RECOMMENDATIONS:

1) **To continue to provide Services under Cooperative Forest Management program.**

2) **To encourage development of industries which can utilize smaller diameter trees.**

3) **To encourage development of special equipment to log small timber.**



A Service Forester goes over a management plan with the owner of forest acreage. This cooperator plans to use the money he gets from proper management for the education of his youngsters.



## SPECIAL USES OF STATE FOREST LAND

Keeping abreast of the increasing demand for private use of state forest land is the design of this program.

The objectives which guide special use management are:

1) *To lease State forest land for grazing, homesites, cabinsites, recreation and other purposes in areas suitable for such leases and where there is little or no conflict with the growing and sale of forest products.*

2) *To develop recreation areas along rivers, lakes and streams which will provide for joint public and private use and which will produce*

*sufficient revenue to justify removing the area from timber production.*

The trend of increased special use of state forest land has continued during this biennium. Areas now under lease are being used for grazing, home and cabinsites, shooting ranges, ski areas, fishing farms, and religious retreats among others.

The State Forester continues the development of special use areas under a plan initiated in the previous biennium. This area development includes desirable cabin and homesite locations and also provides for public recreation. Most of these developments are on lake and river frontage.



This forest home is on state forest land leased for this special use.





